

FIN-TUBE HEAT EXCHANGER WITH VORTEX GENERATOR

ABSTRACT OF THE DISCLOSURE

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A fin-tube heat exchanger with a vortex generator is disclosed. The heat exchanger includes at least one heat transfer tube extending therethrough. A vortex generator is formed on the fin and includes a plurality of protuberance ribs projected from the fin and centralized with the heat transfer tube. An air flow inlet is defined between adjacent two of the protuberance ribs and an air flow outlet is defined between other adjacent two of the protuberance ribs. The air flow is guided from the air flow inlet, through channels defined between the vortex generator and the at least one heat transfer tube, and passes out of the air flow outlet, thereby speeding the air flow and promoting the heat transfer efficiency of a stagnation area behind the tube, and generating vortexes at the protuberance ribs and the air flow outlet for draining outer air into the surface for better air mixing and promoting the heat transfer efficiency of the fin.